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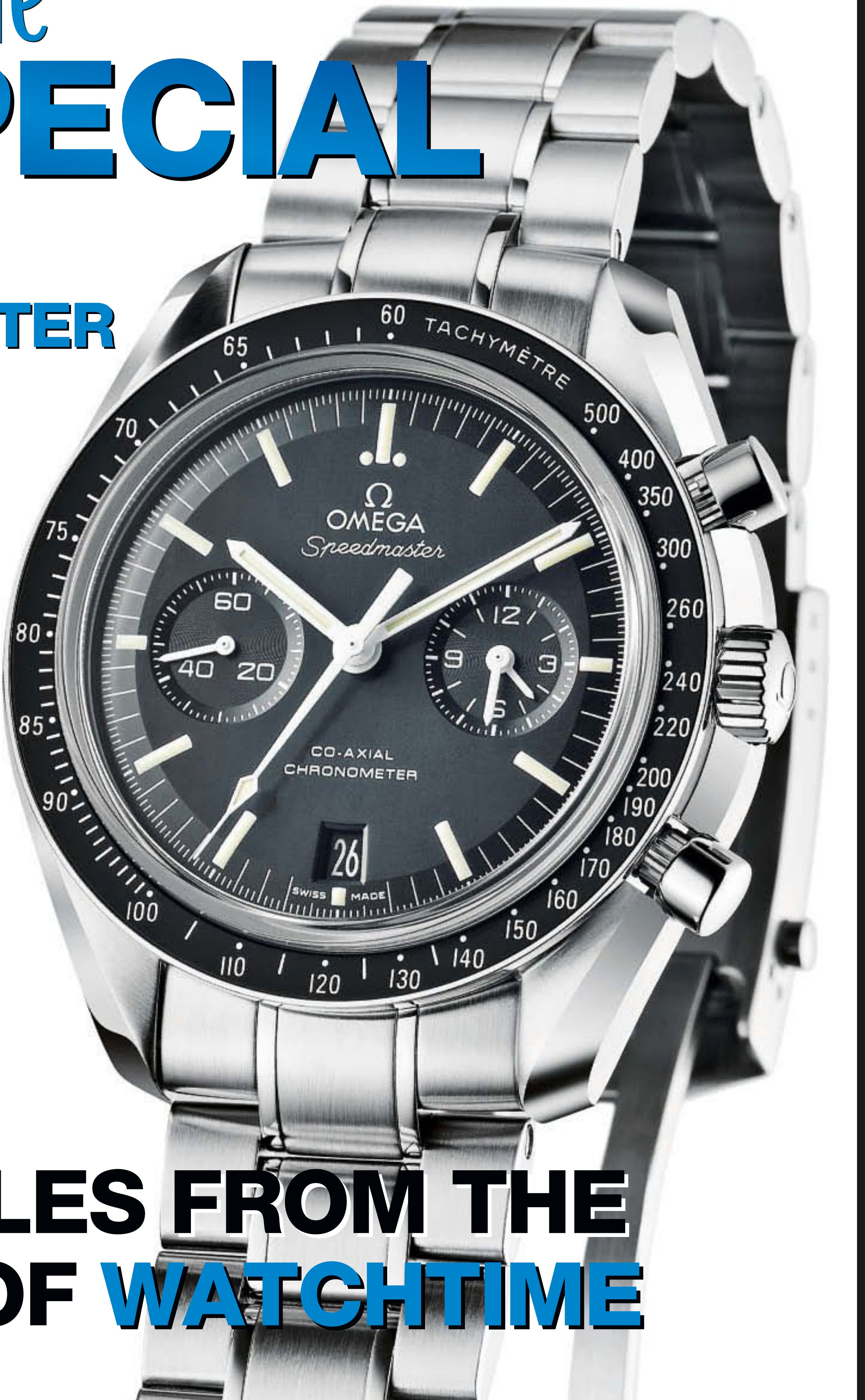
OMEGA SPEEDMASTER TRIPLE FEATURE

- HISTORY
- COMPARATIVE TEST
- MISSION EDITIONS



3 ARTICLES FROM THE PAGES OF WATCHTIME

March 2013

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“Omega Speedmaster” Special Tablet Reprint, March 2013

This special tablet reprint contains a trio of articles about Omega’s famous Speedmaster, a.k.a. the Moonwatch, so-nicknamed for its role in NASA’s Apollo program. All three articles were published in the June 2012 issue of WatchTime magazine and are reproduced here as they originally appeared. One is a comparative test in which a new version of the Moonwatch, equipped with a co-axial escapement, goes head to head with the traditional Moonwatch. The second article is a history of the Moonwatch and its adventures in outer space. Finally, there’s a four-page photo portfolio showing special, commemorative editions of the Moonwatch going back to 1969.

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ON THE COVER: The Speedmaster Moonwatch Omega Co-axial Chronograph. Photo by Nik Schölzel

WatchTime

THE MAGAZINE OF FINE WATCHES

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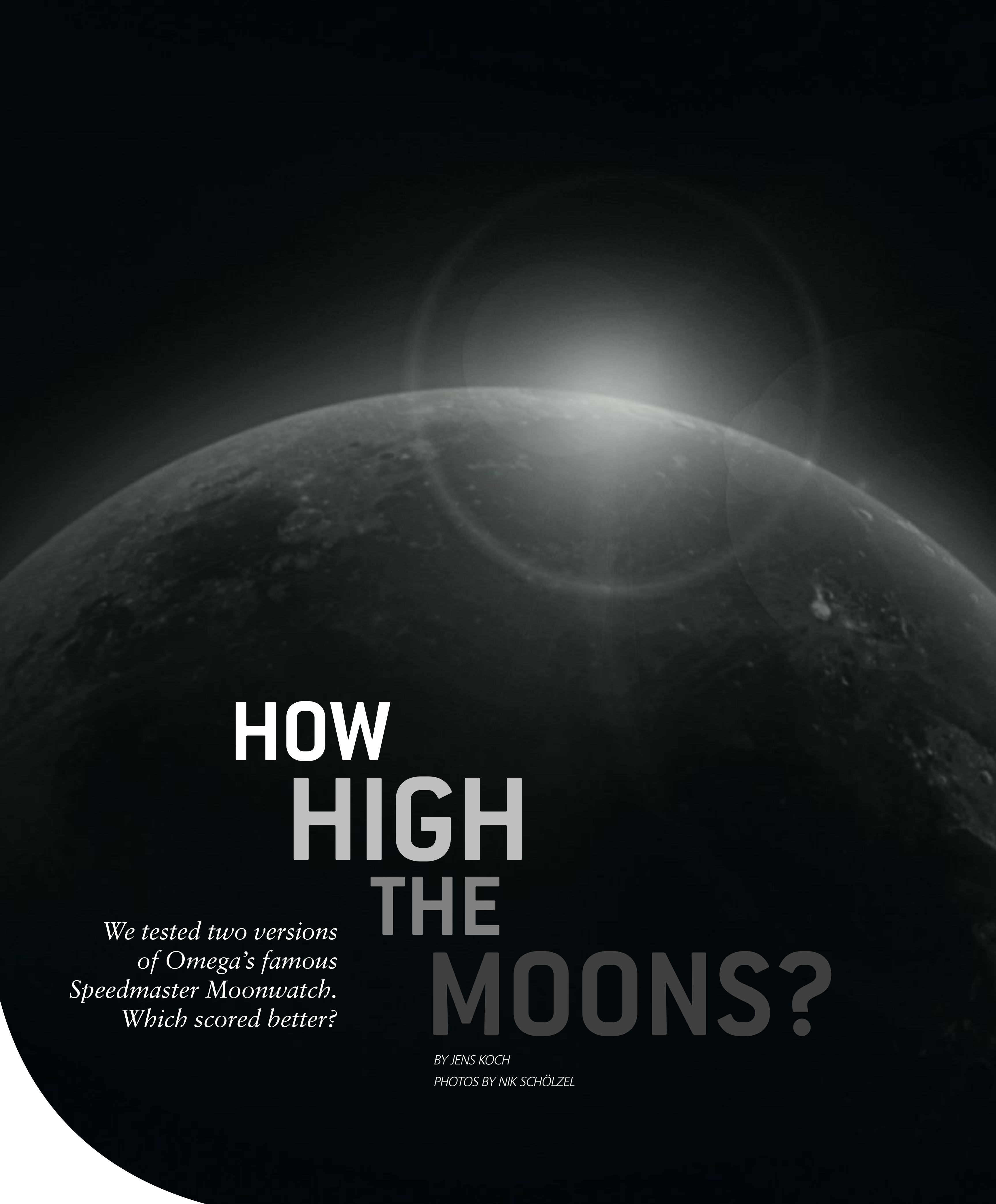


HOW HIGH THE MOONS?

We tested two versions of Omega's famous Speedmaster Moonwatch. Which scored better?

BY JENS KOCH

PHOTOS BY NIK SCHÖLZEL

Pros

+ Classic design
+ Good craftsmanship
+ Moderate price

Cons

− Poor rate results
− No stop-seconds function
− No date display

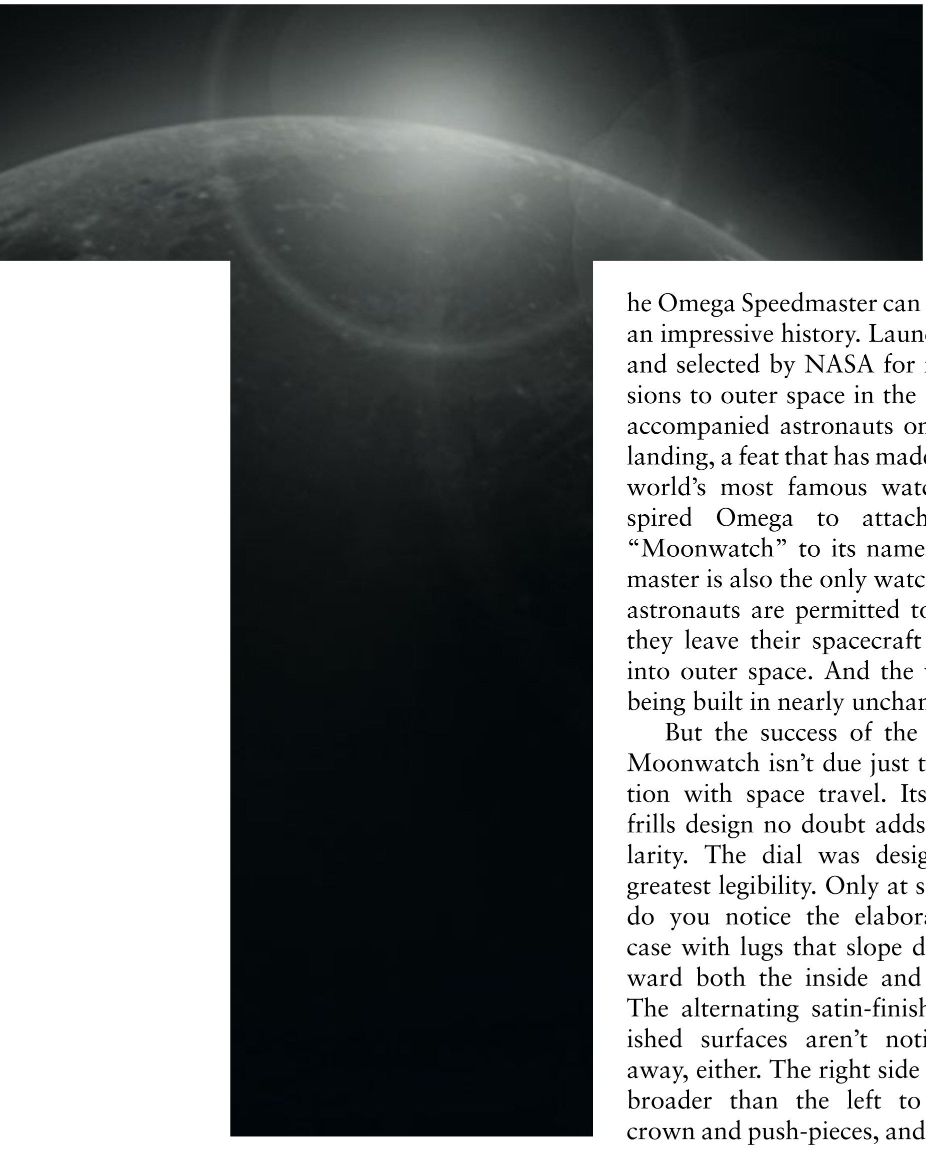
Pros

+ Well-constructed *manufacture* movement
+ Very accurate rate results
+ Attractive design
+ High-quality craftsmanship

Cons

− High price

Two Omega Moonwatches



The Omega Speedmaster can look back on an impressive history. Launched in 1957 and selected by NASA for manned missions to outer space in the 1960s, it has accompanied astronauts on every lunar landing, a feat that has made it one of the world's most famous watches and inspired Omega to attach the word "Moonwatch" to its name. The Speedmaster is also the only watch that NASA astronauts are permitted to wear when they leave their spacecraft and venture into outer space. And the watch is still being built in nearly unchanged form.

But the success of the Speedmaster Moonwatch isn't due just to its connection with space travel. Its classic, no-frills design no doubt adds to its popularity. The dial was designed for the greatest legibility. Only at second glance do you notice the elaborately shaped case with lugs that slope diagonally toward both the inside and the outside. The alternating satin-finished and polished surfaces aren't noticeable right away, either. The right side of the case is broader than the left to protect the crown and push-pieces, and the bezel sits high atop the case.

Last year, Omega introduced a new version of the Speedmaster Moonwatch called the Speedmaster Moonwatch Omega Co-axial Chronograph. It contains the new Omega chronograph caliber 9300, an automatic movement that incorporates a co-axial escapement and silicon hairspring. As Omega fans know, this escapement was invented by the renowned late British watchmaker George Daniels, who sold the concept to Omega in the 1990s. In this comparison test, we put this new version up against the older one, the Speedmaster Professional Moonwatch, which has a manual-wind movement, caliber 1861, and a standard escapement.

Aside from their movements, the differences between the Speedmaster Co-axial and the older model are the for-

SPECS

SPEEDMASTER MOONWATCH OMEGA CO-AXIAL CHRONOGRAPH

Manufacturer: Omega S.A., Rue Stämpfli 96, CH-2504 Bienne, Switzerland

Reference number: 311.30.44.51.01.002

Functions: Hours, minutes, seconds, chronograph with combined counters for 60 elapsed minutes and 12 elapsed hours, date, stop-seconds function

Movement: Omega 9300, automatic, chronometer; 28,800 vph, 54 jewels, two barrels, Nivachoc shock absorption, Glucydur balance, fine adjustment via weight screws on balance, co-axial escapement, 60-hour power reserve; diameter = 32.5 mm, height = 7.6 mm

Case: Stainless steel; curved sapphire crystal is nonreflective on both sides; fully threaded screw-in back with pane of sapphire; water resistant to 100 meters

Bracelet and clasp: Stainless-steel bracelet, stainless-steel folding clasp with safety buttons

Rate results:

(Deviation in seconds per 24 hours)

With chronograph switched off/on

Dial up	+2 / +2
Dial down	+3 / +4
Crown up	+4 / +4
Crown down	+3 / +3
Crown left	+3 / +3
Crown right	+4 / +4
Greatest deviation:	2 / 2
Average deviation:	+3.2 / +3.3
Average amplitude:	
Flat positions	295° / 283°
Hanging positions	269° / 263°

Dimensions: Diameter = 44.25 mm; height = 15.8 mm; weight = 178 g

Price: $8,700

mer's larger case and the addition of a date display at 6 o'clock, the space formerly occupied by the elapsed-hours counter. This counter has now joined the elapsed-minutes counter at 3 o'clock, so both elapsed minutes and elapsed hours can be read on the same subdial. The new version has a steeply curved sapphire crystal and caseback and an improved bracelet; the older one has a Hesalite crystal and solid caseback. Both watches offer very good craftsmanship. The differences between the two, though considerable, are smaller than the variation in price ($4,500 versus $8,700) would suggest.

The metal bracelets, which have brushed links, both feature broad inner pieces with narrow, raised and polished areas at left and right. These give the bracelets a high-quality appearance. The classic model's bracelet has pinned links. The bracelet of the automatic model promises greater longevity thanks to screws and a freely moving crosspiece in each link and is more comfortable because its individual links always remain a certain minimum distance away from

SPECS

SPEEDMASTER PROFESSIONAL MOONWATCH

Manufacturer: Omega S.A., Rue Stämpfli 96, CH-2504 Bienne, Switzerland

Reference number: 3570.50.00

Functions: Hours, minutes, seconds; chronograph with counter for 60 elapsed minutes and 12 elapsed hours

Movement: Caliber 1861, hand-wound, chronometer; 21,600 vph, 18 jewels, Incabloc shock absorption, Glucydur balance, fine adjustment via index and eccentric, 48-hour power reserve; diameter = 27 mm, height = 6.9 mm

Case: Stainless steel; curved Hesalite crystal; fully threaded screw-in back made of stainless steel; water resistant to 50 meters

Bracelet and clasp: Stainless-steel bracelet, stainless-steel folding clasp with safety buttons

Rate results:

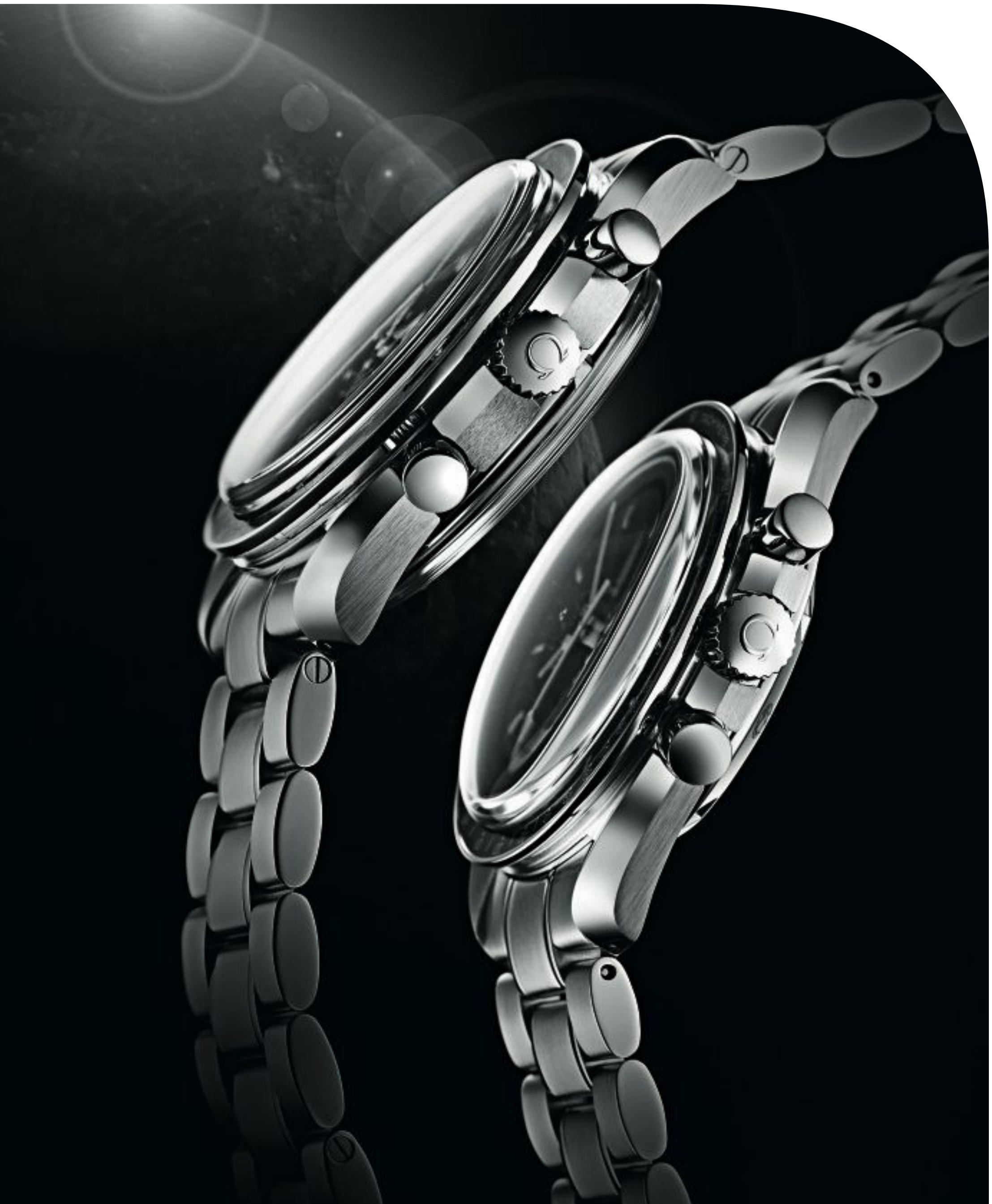
(Deviation in seconds per 24 hours)

With chronograph switched off/on

Dial up	-11 / +2
Dial down	-14 / -5
Crown up	+5 / +11
Crown down	-4 / -2
Crown left	-2 / +2
Crown right	+5 / +6
Greatest deviation:	19 / 16
Average deviation:	-3.5 / +2.3
Average amplitude:	
Flat positions	311° / 266°
Hanging positions	255° / 227°

Dimensions: Diameter = 42 mm; height = 14 mm; weight = 150 g

Price: $4,500



The new model (left) has a sapphire caseback and an improved bracelet.

each other, thus preventing them from plucking the little hairs on the back of the wearer's wrist. This is sometimes a problem with the older, pinned bracelet. The smooth sapphire back of the new model further enhances wearing comfort. The embossed seahorse (the logo that Omega traditionally uses for its water-resistant watches) on the back of the classic model may bother someone with very sensitive skin, but all in all, this watch is quite comfortable to wear.

The smooth surfaces on the insides of both folding clasps add to their wearing comfort. Except for the absence of the word "Professional" on the new version, the two clasps are alike in every way. The segments bearing the logo are milled from solid blocks of metal. The clasps are a good match for the no-nonsense design of the Speedmaster, but their satin-finished surfaces are easily scratched.

Although the two models have different movements, their push-pieces work with the same smoothness and are equally easy to operate. Each model's crown can be pulled into the hand-setting position with little effort. It takes a bit more force to set the hands on the hand-wound model, but the difference is minimal. A greater drawback with this version is the absence of a stop-seconds function: its presence in the new model simplifies to-the-second time setting. The older watch has no date display, but the new one does. The hour hand can be reset in hourly increments, and when it passes midnight, the date display switches either forward or backward to keep in sync with the hour. This adjustment method isn't quite as speedy as a rapid-reset function for the date, but it lets the wearer reset the hour hand without changing the positions of the minutes or seconds hand when entering a new time zone or when it's time to "spring forward" or "fall back" an hour in the spring and fall.

This is also useful because the new Speedmaster keeps time with great precision. It gained an average of 2 seconds per day when worn. We then put the watch on a Witschi Chronoscope X1, a timing machine that, unlike most, can measure the rate of a watch with a co-axial escapement, which makes a different ticking sound than a standard escapement. The most important value determined by our timing machine, the greatest deviation among all six positions, was only 2 seconds – and that's a very low figure. The average deviation was +3.2 seconds. These values scarcely changed when the chronograph was switched on. The amplitude also remained stable. Given these results, the Speedmaster Co-axial ranks among the most accurate watches we have tested.

The classic model can't boast such outstanding accuracy. Although the average deviation was still an acceptable -3.5 seconds per day, the greatest deviation of rate among the several positions was 19 seconds, which is much too high. Furthermore, the deviations within one position varied significantly and the amplitude sometimes declined below 230 degrees. Although watches with this movement have performed better in past tests, the accuracy of the hand-wound caliber cannot rival that of the automatic co-axial caliber.

Omega took great pains to make Caliber 9300 as precise as it is. Like the automatic caliber 8500, the 9300 belongs to the second generation of co-axial movements. Unlike earlier ETA calibers that were rebuilt to accommodate Daniels's co-axial brainchild, these new movements were designed to leave sufficient space for the co-axial escapement, which underwent further improvement and now has three functional levels rather than two. Although Daniels intended that the co-axial escapement require no lubrication, with this movement a thin film of oil must in fact be applied to the surfaces of the escape wheel that exert friction and to the pallet stones.

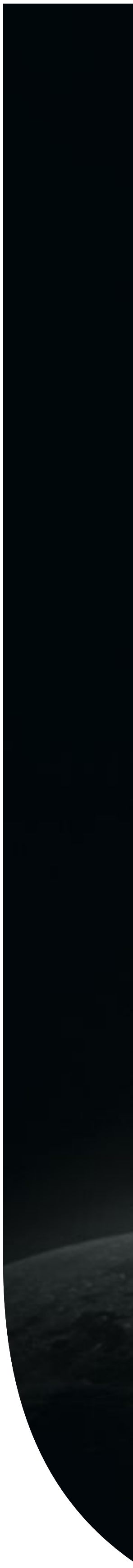
A silicon hairspring, which is nearly unaffected by shocks and scarcely influenced by magnetic fields, contributes to the watch's accuracy. There's also a regulator-free fine-adjustment mechanism that relies on gold washers on the inside of the balance rim. The hairspring is thus free to "breathe" throughout its entire length.

Shock absorption has also been improved. The new Nivachoc system is said

SCORES

SPEEDMASTER PROFESSIONAL MOONWATCH

Bracelet and clasp (max. 10 points): The steel bracelet is merely pinned, but it has the same folding clasp with safety buttons as the co-axial model.	**7**
Operation (5): The crown and push-pieces are easy to use, but the watch lacks a stop-seconds function.	**4**
Case (10): The alternating satin-finished and polished surfaces are very attractive. The Hesalite crystal is easily scratched.	**8**
Design (15): A beautiful classic with the charm of a precision instrument	**15**
Legibility (5): Very good legibility both day and night	**5**
Wearing comfort (10): Comfortable on the wrist, although the little hairs on the back of the wrist can become snagged between the links of the bracelet	**9**
Movement (20): The hand-wound movement is equipped with cam control and horizontal coupling. It has scarcely any embellishments.	**14**
Rate results (10): There is too much deviation among the various positions and the amplitude declines too drastically; only the average deviation is acceptable.	**5**
Overall value (15): Despite hefty price increases in recent years, the cost-benefit ratio remains good.	**13**
TOTAL:	**80 POINTS**



Except for the presence or absence of the word "Professional," the sturdy and easy-to-use clasps on both models are alike in every way.

FLIGHT-QUALIFIED BY NASA FOR ALL MANNED SPACE MISSIONS
SPEEDMASTER
THE FIRST WATCH WORN ON THE MOON
OMEGA
Speedmaster
PROFESSIONAL
OMEGA
Speedmaster

SCORES

SPEEDMASTER MOONWATCH OMEGA CO-AXIAL CHRONOGRAPH

Bracelet and clasp (max. 10 points): Well-constructed, screwed steel bracelet and folding clasp with safety buttons	8
Operation (5): Crown and push-pieces are easy to use. The hour hand can be reset in hourly increments, so no rapid reset for the date display is necessary. A stop-seconds mechanism helps you set the time with to-the-second accuracy.	5
Case (10): A well-crafted case with an attractive shape, plus a sapphire crystal and caseback	9
Design (15): The design of the classic watch has been well adapted to suit the new size.	15
Legibility (5): Very good legibility both day and night	5
Wearing comfort (10): The case is larger, but the watch is nonetheless very comfortable on the wrist.	10
Movement (20): The brand's own well-constructed chronograph movement with refined co-axial escapement, silicon hairspring and fine adjustment without an index	18
Rate results (10): Very slight deviation among the several positions, stable amplitude and good average deviation	10
Overall value (15): High price, but plenty of value for the money. The movement is particularly appealing.	12
TOTAL:	**92 POINTS**

to enhance the centering of the balance staff, which reduces positional error. The balance bridge is screwed on both ends, creating a more robust construction than a conventional balance cock, which is affixed at only one end. Like all new Omega calibers, the 9300 has been COSC certified.

This new movement isn't just sturdy and precise, it has a long power reserve: 60 hours. The energy is continually replenished via a bi-directional rotor that sends power through an alternating gear train to two serially switched barrels. Unlike the rotor in caliber 8500, the swinging weight here doesn't run in a gliding bearing, but atop ball bearings. A total of 54 jewels minimize friction.

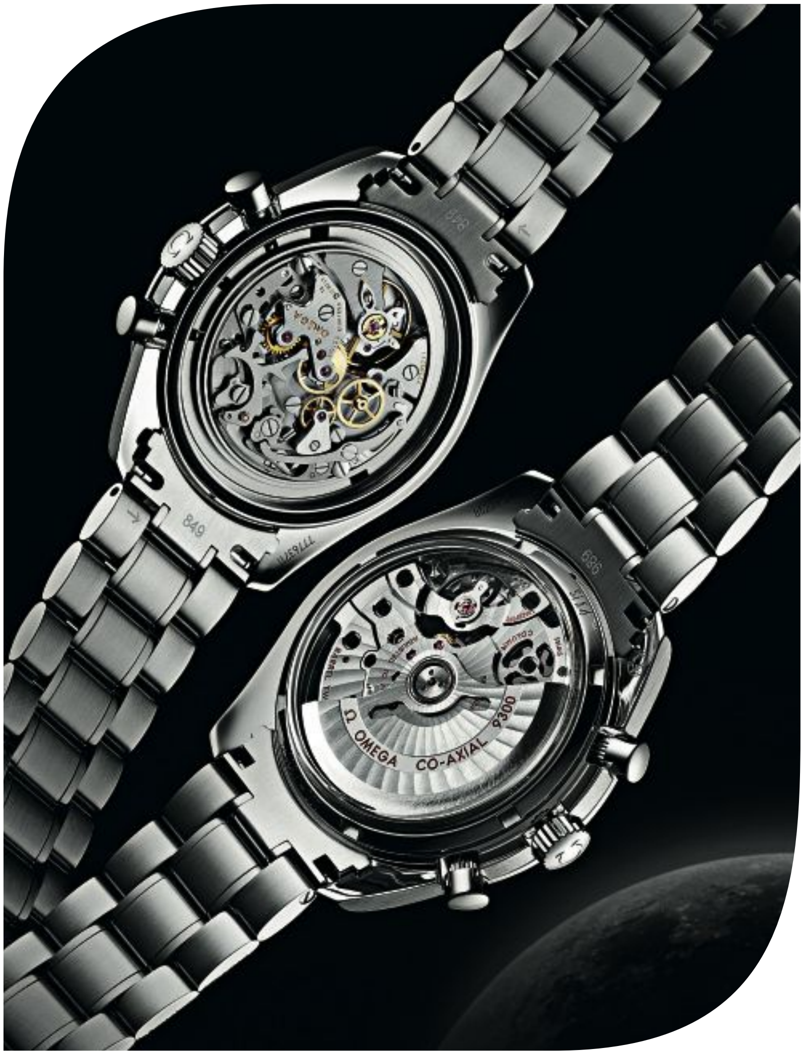
Caliber 9300 relies on an elegant column-wheel mechanism, visible through an aperture in the plate, to control its chronograph functions. Coupling is accomplished vertically. The caliber's embellishments are unconventional and, like the entire movement, they can be readily viewed through the very large pane of sapphire in the caseback. The balance is coated with black chrome and the screws are also blackened. Omega has designed its own decorative pattern: Geneva waves that spiral outward adorn the rotor and the bridges.

The classic model is significantly more closed and has less decoration. A curious aficionado must first remove the steel back and the thin cover that protects the movement from the effects of magnetic fields to see caliber 1861. Even though it's hidden, this caliber boasts rhodium plating, a circular engraved pattern on its bridges, polished heads on its screws, beveling (but not polishing) on some of the edges of the bridges, and gold inlay in the engravings. The levers are unadorned and the brake-lever for the stop-seconds wheel is made of plastic to keep wear within acceptable limits. Neither an automatic bridge nor a rotor obscures the view, so the motions of the horizontal coupling mechanism and the cam switching are easily seen. Fine adjustment is accomplished using an eccentric screw and a regulator fork.

A more attractive variation of caliber 1861 is housed in a version with a sapphire crystal and caseback. NASA doesn't authorize this model for activities in outer space, but the watch nonetheless deserves attention. Another variation debuted in 2008. It contains caliber 3313, an automatic Frédéric Piguet chronograph movement enhanced with the first generation of the co-axial escapement.

Our comparative test raises this question: Is the co-axial model worth a price nearly twice as high as that of the older model? The new model outshines the classic one because it has a different movement, an improved bracelet, a sapphire crystal and a sapphire caseback. But the classic model is just as handsome and almost as easy to read. The advantages of the new model with respect to wearing comfort and operation are only marginal. The new movement offers added value not only due to the date display and the automatic winding; its silicon hairspring and improved co-axial escapement make it genuinely innovative and contribute to its extremely accurate rate results. The classic shows its weakness in this respect.

So which Moonwatch is a better buy? The answer isn't just a question of price, but also of taste. The new model is clearly superior in several details and it embodies state-of-the-art technology. The classic is like a vintage automobile that's still being built. Its charm comes from the Hesalite crystal and the hand-wound movement. Furthermore, it went to the moon and is still the only timepiece NASA astronauts are allowed to wear when they float weightlessly in outer space. There are pros and cons on both sides. ○



Hand-wound caliber 1861 with cam switching (left) and automatic caliber 9300 with column wheel, co-axial escapement and silicon hairspring

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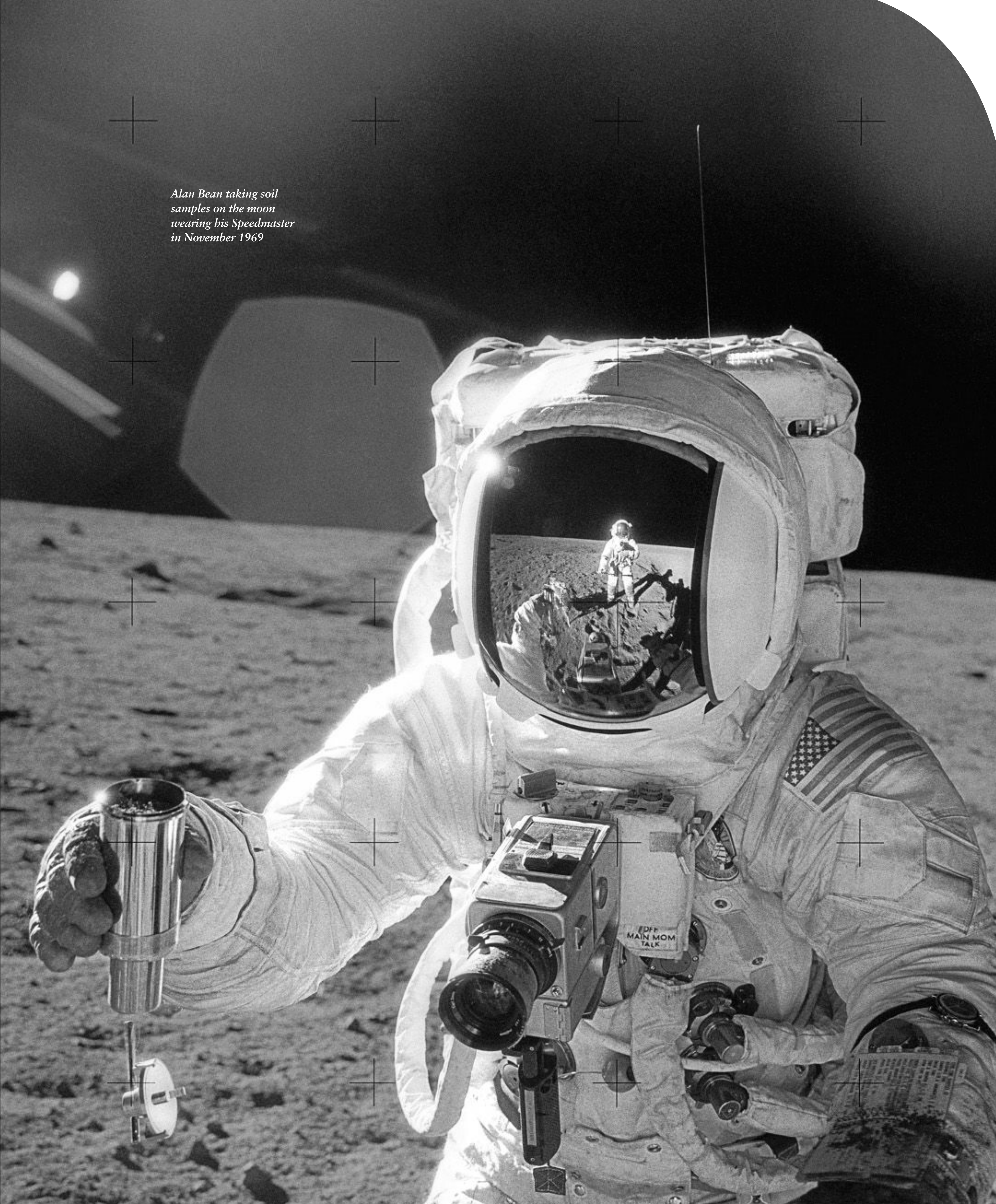
ROCKET WATCH

BY JENS KOCH

When Omega introduced the Speedmaster in 1957, no one imagined that it would later accompany a parade of space pioneers to the moon.



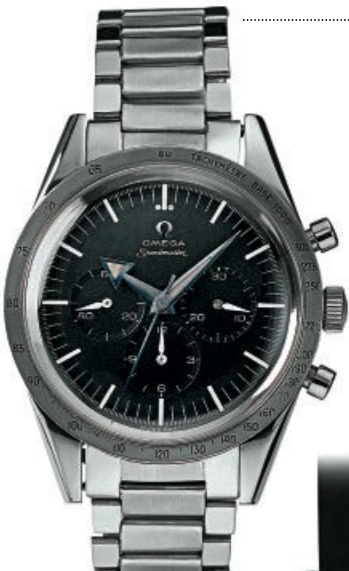
Alan Bean taking soil samples on the moon wearing his Speedmaster in November 1969

America's first manned space missions began with Project Mercury, established on Oct. 7, 1958. The astronauts aboard Mercury spacecraft wore their own personal wristwatches. Some of these were Omega Speedmasters.

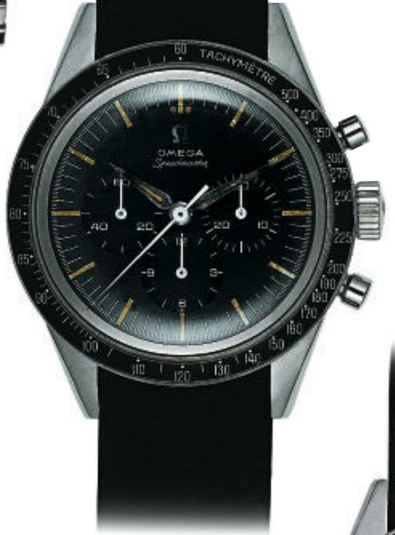
In his address to Congress on May 25, 1961, President Kennedy urged the country to land a man on the moon and return him safely to Earth before the end of the decade. In pursuit of this goal, the National Aeronautics and Space Administration (NASA) announced a plan in December of that year to extend Project Mercury to develop a two-man spacecraft. This new program was named Gemini.

Astronaut Walter Schirra was wearing his own Speedmaster when he and his Sigma 7 Mercury spacecraft orbited the Earth six times on Oct. 3, 1962, a flight lasting 9 hours and 15 minutes. NASA decided to make astronauts' wristwatches part of their equipment for Project Gemini and for the subsequent Apollo program, and thus for the moon landing. The agency commissioned James H. Ragan, a NASA aerospace engineer and flight hardware expert, to write a list of specs, test potential watches and purchase the winning models. The watch would have to be a chronograph, and an official call for candidates was issued. In addition to Omega, other entrants were Longines, Wittnauer and Rolex. All models were tested under zero gravity, extreme pressure variations, bone-jarring vibrations, and temperatures ranging from -18 to +93 degrees Celsius. The watches were also tested by astronauts aboard a Gemini space flight.

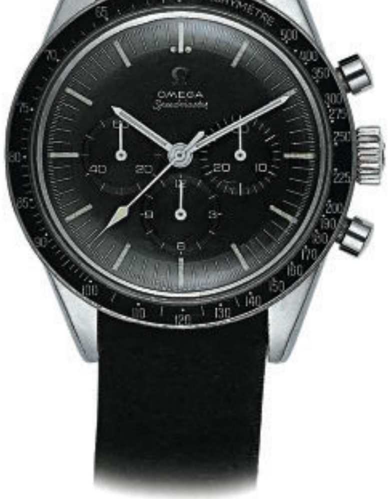
The Speedmaster outperformed all the other watches in both test series. The watch was officially designated as "flight-qualified by NASA for all manned space missions" on March 1, 1965. NASA bought an initial group of 15 to 20 Speedmaster watches from Omega. Unlike almost all other Apollo equipment, the watch was not manufac-



The first Speedmaster (1957), which had a broad-arrow hand and steel bezel



This was the first Speedmaster in space. Walter Schirra wore this second version of the Speedmaster, which debuted in 1959, when he orbited the Earth in 1962.



The third version of the Speedmaster (1963), which had baton-shaped hands. Thomas Stafford took this model into space on three missions.

Edward White, wearing a Speedmaster, became the first American to leave his spacecraft and walk in space in June 1965.

tured for use specifically by NASA or for use in space but was available in retail outlets in the U.S.

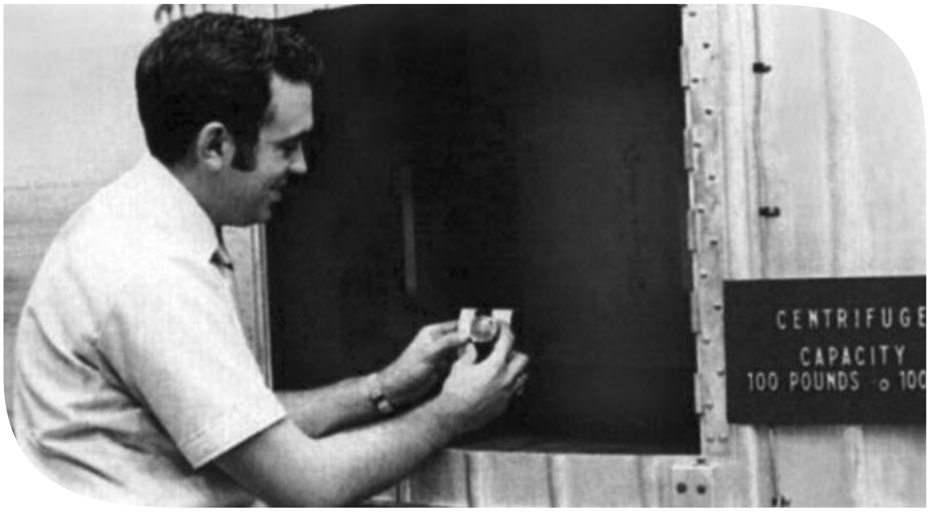
The first Speedmaster models flew into space three weeks later on the wrists of astronauts Virgil "Gus" Grissom and John Young as official equipment aboard Gemini 3. This was the first official trip for the chronograph although it had already flown in space twice on Project Mercury missions.

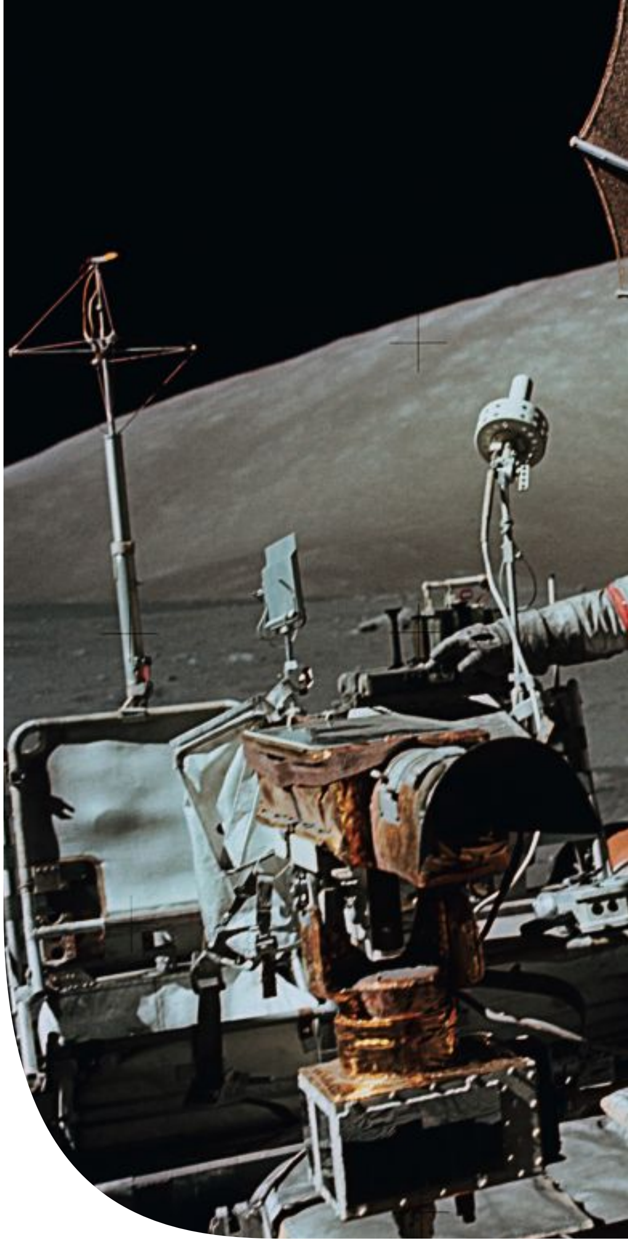
The real test for the Speedmaster came on June 3, 1965, during the Gemini 4 mission, when astronaut Edward H. White wore the chronograph over the sleeve of his spacesuit for a spacewalk. The environment in outer space is as harsh as any a watch will encounter anywhere. Near-vacuum conditions and extreme temperatures prevail. The temperature on the side of the ship exposed to the sun climbs to about 100 C and plummets on the other side to approximately –100 C. In anticipation of these rigors, Omega developed prototypes with red anodized aluminum cases for protection from extreme temperature variations and dials coated with zinc oxide to provide the highest resistance to solar radiation. But these prototypes turned out to be unnecessary because the Speedmaster withstood the extreme temperatures without any modifications.

Omega added the word "Professional" to the Speedmaster's dial in 1965 and highlighted the watch's role in space exploration in the brand's advertising campaigns. The race to put the first man on the moon was by then in full swing. The USSR had led the U.S. in the space race for several years. The first man-made object to reach the lunar surface was the Soviet Lunik 2 space probe, which accomplished a planned crash landing in 1959. On Feb. 3, 1966, the Soviets also completed the first soft landing on the moon with their Luna 9 spacecraft.

NEIL ARMSTRONG became the first person to set foot on the moon at 2:56:20 GMT on July 21, 1969. The electronic chronograph aboard the lunar module had malfunctioned, so Armstrong left his Speedmaster inside the spacecraft. That's why Edwin "Buzz" Aldrin became the first man to wear the Speedmaster on the moon when he left the module 13 minutes later and joined Armstrong on the lunar surface. The Moonwatch was born! The fantastic photos shot by the Apollo 11 astronauts were transmitted to Earth and sent

NASA aerospace engineer James H. Ragan using a centrifuge to test a Speedmaster





around the globe, and the Speedmaster was clearly visible in many of these historic images. The same Speedmaster model accompanied other astronauts on later lunar expeditions.

The Speedmaster played a decisive role in assuring a safe return for the astronauts aboard the now-famous Apollo 13 mission in April 1970. On the third day after liftoff, one of the two oxygen tanks aboard the spacecraft exploded. The blast also damaged the second tank, which was positioned next to the first. Oxygen wasn't needed only to allow the crew to breathe, it was also essential for the fuel cells that produced the craft's electricity and water. A lunar landing was out of the question now. The crew was ordered to return to Earth as quickly as possible. All systems were switched to emergency fuel-saving status and electricity was supplied only to those devices essential for life. The spacecraft's trajectory was guided into an orbit around the moon to gain a gravitational boost for the return flight. But to put the craft on the correct trajectory for a safe return into the Earth's atmosphere, the rockets would have to be fired for a few seconds while the spaceship was behind the moon and out of radio contact with ground control. The electronic clock aboard the vessel had likewise been switched off to conserve power, so the crew had to rely on their Speedmaster for the all-important 14-second firing of the lunar module's descent propulsion system. A 10 percent error would have had fatal consequences: the spaceship would have missed Earth and continued into deep space, never to return home. But the Speedmaster performed impeccably and, thanks to its precision, the three astronauts returned safely to Earth.

THE SPEEDMASTER MODELS USED IN SPACE WERE THE SAME ONES SOLD IN RETAIL STORES.

The life-saving performance of the Speedmaster was acknowledged by the astronauts. In October 1970, Omega received the Snoopy Award, an honor NASA's Astronauts Office confers on employees and contractors who have made especially important contributions to the success of NASA missions. The certificate was autographed by the crew of Apollo 13: James Lovell, Fred Haise and Jack Swigert.

A competitor challenged the Speedmaster in 1972, shortly before Apollo 17 lifted off for the last flight to the moon. American watch manufacturer Bulova was putting pressure on NASA to follow the "Buy American Act," which was intended to promote American products. Bulova achieved partial success by persuading NASA to begin a new series of tests in which 16 different chronographs participated. In addition to the tests conducted in 1964 and 1965, the watches were also exposed to magnetic fields. Once again, the Speedmaster was judged

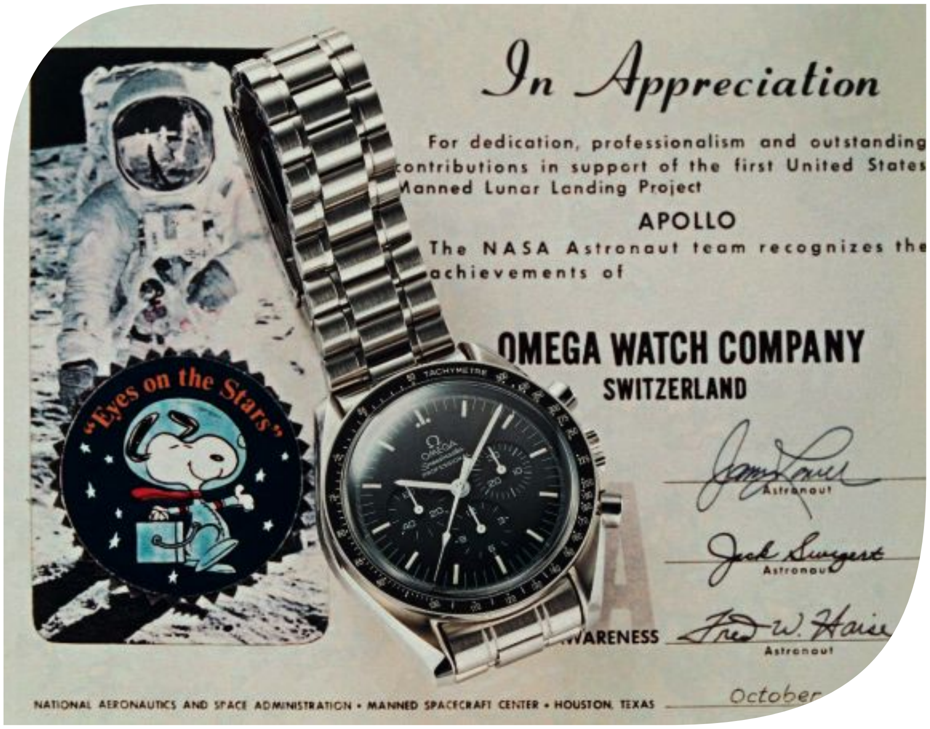
Eugene Cernan, the last man on the moon, wore a Speedmaster during the Apollo 17 mission in December 1972.

Edwin "Buzz" Aldrin, the first man to wear the Speedmaster on the moon, aboard the lunar module, shortly before it landed on the moon

to be the most robust and the most precise, and was chosen to continue serving as NASA's official wristwatch. This meant it would be standard equipment for the final lunar landing and all subsequent manned activities in outer space. Eugene Cernan, the last man to walk on the moon, wore a Speedmaster. Furthermore, Speedmaster chronographs were strapped around the wrists of both the American astronaut Tom Stafford (who would later become chairman of Omega USA) and the Soviet cosmonaut Alexei Leonov during the historic Apollo-Soyuz rendezvous in July 1975. This was the first time cosmonauts also wore the Speedmaster, which has been the official chronograph of Russian manned space missions ever since.

A new era in space flight began when the U.S. built a reusable spacecraft, the space shuttle. For this new program, nearly all of the supplier contracts were in 1978 subjected to a call for new suppliers. This included a search for new watches: approximately 30 brands were invited to submit their chronographs for testing. In addition to the classic Speedmaster Professional with hand-wound caliber 861, Omega also sent a Speedmaster 125 (a self-winding mechanical chronometer with a central elapsed-minutes counter) and an electronic Speedsonic with a tuning fork regulator. After four months of intensive testing, the winner was chosen: once again, the hand-wound Speedmaster Professional proved to be the best among the tested watches. Timekeeping by quartz watches deviated too drastically in the extremely high and low temperatures, and LCD displays froze in the frigid cold. NASA purchased 56 Speedmaster Professional watches. This model has remained the only wristwatch authorized for astronauts to wear during extra-vehicular activities.

THE SPEEDMASTER has been a part of highly diverse missions, but the watch itself has undergone very few changes since its introduction in 1957. The first



In Appreciation

For dedication, professionalism and outstanding contributions in support of the first United States Manned Lunar Landing Project

APOLLO

The NASA Astronaut team recognizes the achievements of

OMEGA WATCH COMPANY
SWITZERLAND

Jim Lovell
Astronaut

Jack Swigert
Astronaut

WARENESS Fred W. Haise
Astronaut

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • MANNED SPACECRAFT CENTER • HOUSTON, TEXAS October

version had a steel-colored bezel with a tachymeter scale, an arrowhead at the tip of its hour hand and an acutely tapering minutes hand. The designers' goal was to create an extremely legible dial, so the tachymeter scale was on the bezel. Inside the case ticked hand-wound caliber 321 with column-wheel control for its chronograph functions. This movement was based on caliber 27 CHRO C 12, the brand's first chronograph movement with a counter for 12 elapsed hours, which was designed in 1942. This caliber was further developed by Albert Piguet at Lémania in 1946, whose efforts led to the creation of caliber 321. Omega had acquired Lémania Lugrin in 1932. When Omega introduced the Speedmaster in 1957, this caliber was still state of the art and would remain so for many years.

The second version of the Speedmaster debuted in 1959. It was equipped with alpha hands and the characteristic black tachymeter bezel. Astronaut Walter Schirra wore this model in 1962 when he made it the first Speedmaster to be worn during extra-vehicular activity.

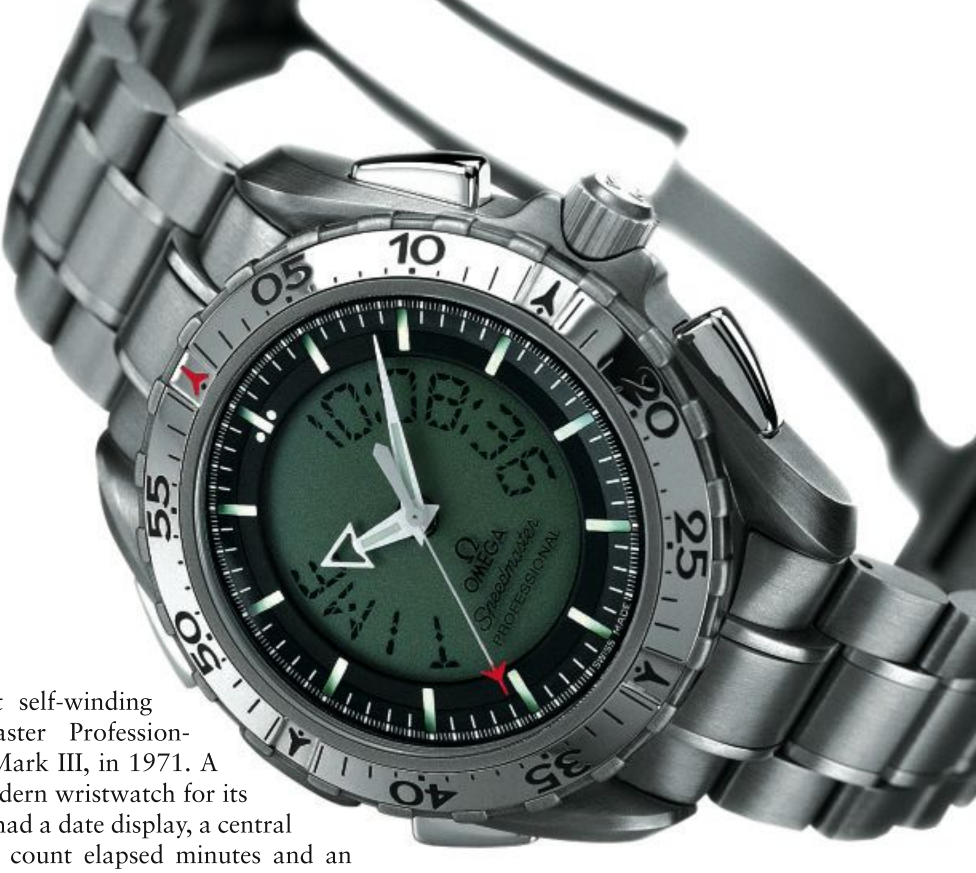
The third version of the Speedmaster debuted in 1963. With it came the current look, with baton hands for the hours and minutes and an arrowhead at the tip of the central elapsed-seconds hand. The asymmetrical case with raised right side to protect the push-pieces was introduced in 1963 and is still in use today, but the symmetrical case was also manufactured until 1966. As mentioned earlier, the word "Professional" was added to the Speedmaster's dial in 1965.

On the back of the case is the seahorse emblem that Omega uses on its water-resistant watches. Only between 1969 and 1971 was this emblem temporarily replaced by Omega's logo, along with the phrases "The first watch worn on the moon" and "Flight-qualified by NASA for all manned space missions." Omega later changed to the caseback design that's in use today, with the embossed seahorse in the center and the two phrases around the border.

The movement has undergone relatively few changes over the years. Lémania simplified caliber 321 and released it as caliber 861 in 1968. Instead of a column wheel, the simpler version relied on a cam to control its chronograph functions. It also had a smooth balance rather than one with screws along its rim and the balance's frequency was increased from 18,000 vph to a more modern speed of 21,600 vph. The Speedmaster was modified to house this movement the same year. Watches with the newer caliber 861 can be recognized by the printed Omega logo on their dials, which replaced the applied logo. Several details in the caliber were changed in 1996, and the movement has been known as caliber 1861 ever since. Last year, Omega introduced a new Speedmaster with an in-house movement, caliber 9300, which

Far left: After the safe return of Apollo 13, Omega received NASA's Snoopy Award in recognition of the Speedmaster's role in the space program.

Astronaut Mike Fossum aboard the International Space Station in November 2011, wearing the Speedmaster X-33



The Speedmaster Professional X-33

contains a co-axial escapement (see previous article for a comparison between this watch and the caliber 1861 model).

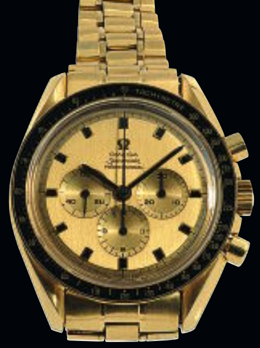
Although the watch's design has varied little over the decades – even the Plexiglas crystal found on the original Speedmaster is still used today – there have been many variations and special models. The Speedmaster Professional Mark II, which had a tonneau-shaped case and a hardened mineral crystal, was first marketed in 1969. Omega introduced the first self-winding Speedmaster Professional, the Mark III, in 1971. A very modern wristwatch for its time, it had a date display, a central hand to count elapsed minutes and an additional 24-hour display. In 1973, Omega launched a limited-edition Speedmaster 125 that housed the same movement as the Mark III but was chronometer certified. This movement also powered the Mark IV, introduced the same year. Electronics were introduced in 1974, when Omega launched the Speedsonic f 300 Hz, with a tuning-fork movement. The Speedmaster Quartz with LCD display came out in 1977. Different models of this watch were built in subsequent years. A series of Speedmaster Professional watches was equipped with crystal backs for the first time in 1980, and the numerical designation "863" was given to the embellished version of caliber 861.

The 1980s saw the debut of the Mark V, a mechanical Speedmaster with a rounded case. A model with a moonphase display and a hand-type date in the Professional line was also introduced that decade. Omega further expanded the Speedmaster family with a smaller "Reduced" model with automatic movement, the Broad Arrow, and the popular Speedmaster Racing models, which were created in collaboration with Michael Schumacher, the seven-time Formula 1 world champion.

Although the hand-wound Speedmaster Professional remains the only wristwatch authorized for spacewalks, new technology has made possible various functions that are important for space travel. Omega collaborated with astronauts to develop the quartz-controlled Speedmaster X-33 multi-function watch. Prototypes were tested by jet pilots and by astronauts aboard the Mir space station. With an analog-digital display, this model, introduced in 1998, was named for the planned successor to the space shuttle, which was later canceled. Like the Moonwatch, this timepiece is "Flight-qualified by NASA for space missions." The phrase is engraved on the back of the watch, which also has the embossed seahorse emblem. One of the important new functions for astronauts is "mission elapsed time," the number of days, hours, minutes and seconds that have elapsed since liftoff. This simplifies timing for the astronauts because scheduling for every experiment is expressed in "mission elapsed time." The alarm, which rings at 80 decibels, is extremely loud and can also be felt as vibrations on the wrist. ○

SPACE FACES

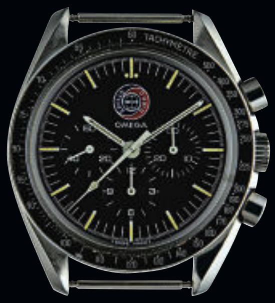
Ever since the first moon landing, Omega has been issuing Speedmaster Moonwatches commemorating major space missions.



1969

APOLLO XI

A limited edition of 1,014 watches with gold cases, gold dials and rose-gold-plated movements commemorates the moon landing.



1975

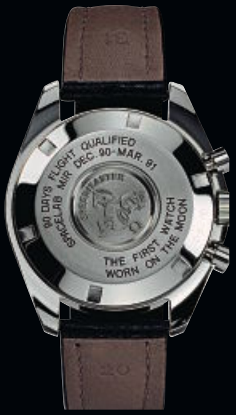
APOLLO-SOYUZ

A limited edition of 500 watches with the mission's logo on the dial, a Saturn rocket on the caseback and the words "Gemini Apollo Soyuz" was made to commemorate the Apollo-Soyuz test project.

1989

APOLLO XI

Approximately 6,250 watches with engraving on the side marked the 20th anniversary of the moon landing.


90 DAYS FLIGHT QUALIFIED
SPACELAB MIR DEC. 90-MAR. 91
THE FIRST WATCH WORN ON THE MOON

1991

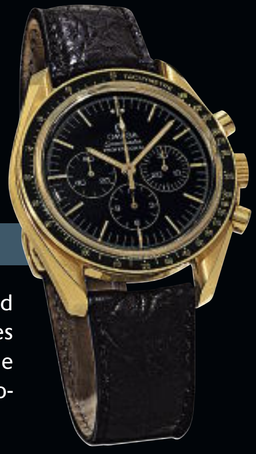
MIR

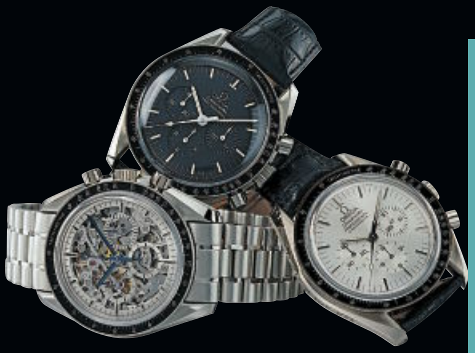
Ten watches with engraved casebacks were made for Germany to commemorate the Mir space station. They spent three months, ending in March 1991, aboard the Mir space station.

1995

APOLLO-SOYUZ

Two hundred watches with gold cases and engraving on the sides were made for Italy to mark the 20th anniversary of the Apollo-Soyuz test project.

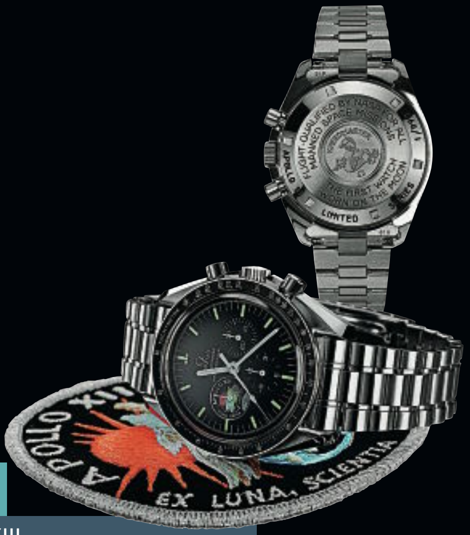




1994

APOLLO XI

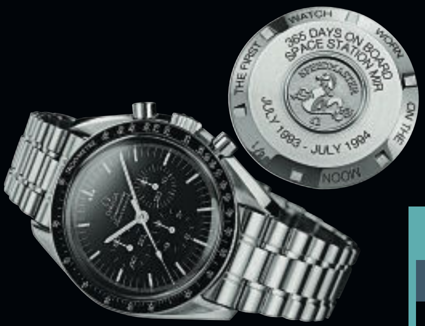
A limited edition of 2,500 watches with steel cases and black dials, 500 with white-gold cases and crystal casebacks, and 50 with platinum cases, skeletonized movements and sapphire casebacks was produced for the 25th anniversary of Apollo XI. A series of 999 watches with steel cases, crystal casebacks and engraving on the sides was made for Italy.



1995

APOLLO XIII

A series of 999 watches was made for the 25th anniversary of Apollo XIII. Each watch is numbered on the caseback and has the mission's logo on the dial.


THE FIRST WATCH WORN ON THE MOON
365 DAYS ON BOARD SPACE STATION MIR
JULY 1993 - JULY 1994

1995

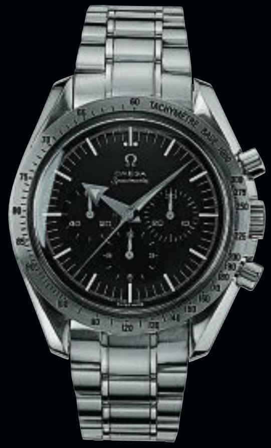
MIR

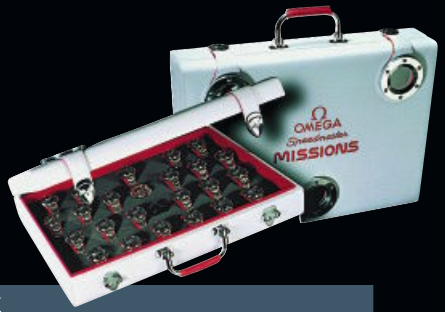
The second Mir special edition comprised 28 watches in steel and seven in gold. All 35 spent a year in orbit aboard the Mir space station.

1998

"REPLICA"

A replica of the original Speedmaster from 1957 was produced in an unlimited steel version and in a limited edition of 150 pieces in gold.





1997

MISSION CASE

Forty carrying cases, each containing 22 different models, were made for the Speedmaster's 40th birthday. Each watch has the logo of an important U.S. space mission on the seconds subdial. Also included is a replica of the original Speedmaster from 1957 with arrowhead hour hand.

1998

MISSION WATCHES

All mission models in the mission carrying case were released individually except the Apollo XIII model. Shown here, Skylab III.

1999

APOLLO XI

A limited series of 9,999 watches with engraved casebacks and serial numbers was made to mark the 30th anniversary of man's first moon landing.

2000

APOLLO-SOYUZ

The 25th anniversary of the Apollo-Soyuz test project was commemorated with 50 watches with gold cases and engraved casebacks.

2002

"LAST MAN ON THE MOON"

Thirty years after Apollo XVII made the last flight to the moon, 3,000 numbered watches were produced to mark the event. Each watch has an embossed mission logo on the caseback.

2003

SNOOPY AWARD

The award given by the NASA astronauts to Omega in October 1970 was commemorated with a series of 5,441 numbered watches with the Snoopy Award logo on the seconds subdial and on the caseback.

2004

APOLLO XI

A limited edition of 3,500 watches marked the 35th anniversary of the first moon landing. Each has a silvered dial with black counters and the date of the moon landing, a crystal caseback and a mission logo.

2004

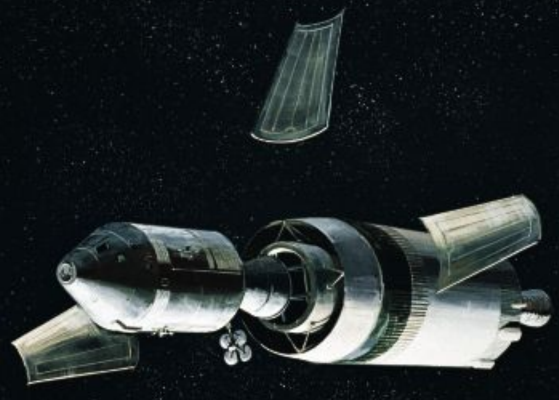
"FROM THE MOON TO MARS"

This unlimited but numbered series was produced to commemorate NASA's new plans for space travel. The Earth, the moon and Mars are printed on the subdials.

2006

APOLLO XV

Omega produced a series of 1,971 watches to mark the 35th anniversary of Apollo XV. Each watch has a rose-gold crown, pushers, bezel, hands and subdial rings, and a crystal caseback with mission logo.



2005

“FIRST SPACE WALK”

This watch with a blue dial and a caseback with the “Gemini 4” logo marked the 40th anniversary of the first space walk.

2008

ALASKA PROJECT

Developed in 1970 but never serially manufactured, this version of the Speedmaster was developed to withstand the extreme temperatures in outer space. To mark the date, 1,970 watches were made, each with white dial and red anodized aluminum case.

2009

APOLLO XI

Forty years after the moon landing, Omega manufactured a series of 7,969 watches with steel cases and silver mission logo on the seconds subdial, and 69 watches with platinum cases and gold-colored mission logo.

2010

APOLLO-SOYUZ

Thirty-five years after the Apollo-Soyuz test project, 1,975 watches commemorate the event. Each dial is made of meteorite and the watch has an embossed back depicting both spaceships.

2011

APOLLO XV

Forty years after Apollo XV, 1,971 watches commemorate the mission. Each watch has red, white and blue on the dial and the caseback is embossed with an image of the mission’s lunar rover.